Model Exam 1

1 Choose the correct answer:

1. Smog damages the tissues of the .... system.
   a. digestive b. circulatory c. respiratory d. nervous
2. Both modern wind turbines and old windmills are similar in their.......... .
   a. blades number b. ways of working
   c. height d. blades shape
3. The electricity from wind turbines is transmitted into houses and factories through ....
   a. the wind b. solar panels c. generators d. wires
4. Water of rivers stores great .... energy at the top of waterfalls.
   a. kinetic b. potential c. electrical d. light

2 Put (✓) or (✗):

1. Acid rain causes chemical changes to soil and water. ( )
2. We feel the warmth of the Sun during the day only. ( )
3. A solar cell consists of many small solar panels. ( )
4. The power source for the electric fan is wind. ( )

3 Answer the following questions:

1. Write the scientific term:
   It is a type of electrical energy generated by water turbines in dams.
   (....................)
2. Give a reason for:
   People used windmills and watermills from 400 years ago.
   ....

Model Exam 2

1 Choose the correct answer:

1. The .... energy of the Sun causes air movements and wind blowing.
   a. chemical b. radiant c. electrical d. sound
2. The power source for the electric fan is ....
   a. wind b. water c. heat d. electricity
3. Using .... to produce electric energy is expensive.
   a. solar energy b. oil c. natural gas d. coal
4. In winter, greenhouses help farmers grow plants that need ....
   a. warm weather b. cold weather c. less water d. less sunlight

2 Put (✓) or (✗):

1. Small solar panels may be able to illuminate buildings. ( )
2. We use solar energy to preserve food. ( )
3. To reduce global warming, we must conserve nonrenewable resources of energy. ( )
4. When the kinetic energy of the wind increases, the windmill blades spin faster. ( )

3 Answer the following questions:

1. Write the scientific term:

   It is the device in an electric power station that turns kinetic energy into electrical energy. (....................)

2. What happens if:

   Dams hold back the flow of water?

   ....

Model Exam 3

1 Choose the correct answer:

1. Carbon dioxide traps .... in the atmosphere causes global warming.
   a. gases b. water vapor c. pressure d. heat
2. Using concave mirrors in cooking is one of the benefits of using ....
   a. wind b. water c. sand d. solar energy
3. Solar panels can be used to operate all the following, except ....
   a. a calculator b. gas oven
   c. irrigation equipments d. street lights
4. Burning fossil fuel causes all the following, except ....
   a. pollution b. acid rain
   c. global warming d. deforestation

2 Put (✓) or (✗):

1. The amount of fossil fuel on Earth is unlimited. ( )
2. Windmills can do their job all the time, as the wind never stops blowing. ( )
3. Wind energy is a clean source of energy. ( )
4. When water falls down on waterfalls, its kinetic energy decreases. ( )

3 Answer the following questions:

1. Write the scientific term:
   They are energy resources that include wind energy and water energy. (....................)
2. Give a reason for:
   You feel the warmth of the Sun at night.
   ....

Model Exam 4

1 Choose the correct answer:

1. .... change the kinetic energy into electrical energy.
   a. Motors b. Panels c. Generators d. Fans
2. .... are used to increase the potential energy of water.
   a. Watermills b. Generators c. Dams d. Greenhouses
3. When .... mixes with water from canals and strams, it causes water and soil pollution.
   a. carbon dioxide b. smog c. rain d. pesticides
4. Modern turbines are .... than old windmills.
   a. longer b. shorter c. heavier d. slower

2 Put (✓) or (✗):

1. Wind turbines are placed in windy areas. ( )
2. Burning the fuel in cars causes soil pollution. ( )
3. Acid rain leads to physical changes in the structure of lakes and soil. ( )
4. Wind turbines use electricity to produce wind. ( )

3 Answer the following questions:

1. Write the scientific term:
   It is the primary source of energy on Earth. (....................)
2. What happens if:
   Factories discharge a lot amount of chemicals into a city?
   ....

Model Exam 5

1 Choose the correct answer:

1. Carbon dioxide gas can cause all the following, except ....
   a. air pollution b. global warming
   c. deforestation d. acid rain
2. Using vehicles that are operated by .... conserves fossil fuel.
   a. natural gas b. solar energy c. electricity d. b and c
3. In wind turbines, the .... energy of the wind is changed into electrical energy.
   a. kinetic b. thermal c. sound d. light
4. Hydroelectricity is produced by using ....
   a. wind b. water c. soil d. plants

2 Put (✓) or (✗):

1. Solar cells are designed to capture the radiant energy of the Sun. (   )
2. The flow of water in dams can be controlled to generate electricity. (   )
3. Large particles found in smog cause air pollution. (   )
4. Windmills can do their job all the time, as the wind never stops blowing. (   )

3 Answer the following questions:

1. Write the scientific term:
   It is a device that consists of black pipes used to heat water.
   (................)
2. Give a reason for:
   We should conserve electricity.
   ....

Answers

Model Exam 1

1 1 c 2 b 3 d 4 b

2 1 ✓ 2 ✗ 3 ✗ 4 ✗

3
1 Hydroelectricity
2 To grind grains to make flour.

Model Exam 2

1 1 b 2 d 3 a 4 a

2 1 ✗ 2 ✗ 3 ✓ 4 ✓

3
1 Generator
2 The potential energy of the water will increase.

Model Exam 3

1 1 d 2 d 3 b 4 d

2 1 ✗ 2 ✗ 3 ✓ 4 ✗

3
1 Renewable resources
2 Because the atmosphere, water, and soil absorb heat energy from the Sun.

Model Exam 4

1 1 c 2 c 3 d 4 a

2 1 ✓ 2 ✗ 3 ✗ 4 ✗

3
1 The Sun
2 It will pollute the air, water, and soil.

Model Exam 5

1 1 c 2 b 3 a 4 b

2 1 ✓ 2 ✓ 3 ✗ 4 ✗

3
1 Solar water heater
2 To avoid burning more fossil fuels and to reduce air pollution.

Model (1)



1 Choose the correct answer:

1. From the factors that help in the formation of fossil fuels are ....
   a) the decomposition of the dead living organisms
   b) accumulation of sediments
   c) pressure and heat
   d) All the previous answers
2. Electricity is produced from ....
   a) renewable resources only
   b) non-renewable resources only
   c) renewable and non-renewable resources
   d) No correct answer
3. All the following conserve using of fossil fuels except ....
   a) cycling b) walking c) using cars d) using solar energy
4. The solar energy is converted into .... energy in greenhouses.
   a) electrical b) sound c) thermal d) kinetic

2 Complete the following sentences:

1. In electric power stations, ... operate the electric generator.
2. Carbon dioxide gas combines with water causes ....
3. The wind blows due to the difference in .... between the hot and cold air.
4. By decreasing the number of blades, the speed of rotation of turbines will ....

3 Answer the following questions:

1. Wind and water are considered renewable sources of energy. Give reason.
   - ....
2. What happens when the potential energy of water increases in a dam containing water turbines?
   - ....

Model (2)

15 Marks

1 Choose the correct answer:

1. Generators convert kinetic energy into .... energy which is transmitted through wires.
   a) potential b) electrical c) magnetic d) heat
2. In addition to long periods, all of the following are factors that help in the formation of fossil fuels except ....
   a) extreme heat b) decomposition of the dead organisms
   c) freshwater d) high pressure
3. Which of the following is a preferred natural resource for generating clean energy? ....
   a) Ocean and river waters b) Dry trees and herbs
   c) Water, coal, and oil d) Wind, oil, and natural gas
4. All the following are from the uses of electricity generated by solar panels except ....
   a) operating irrigation equipment b) operating windmills
   c) operating calculators d) lighting streets

2 Put (✓) or (✗):

1. In an electric power station, thermal energy is used to heat water and form steam. ( )
2. To conserve fuel, lit all lights even when you don't need them. ( )
3. The kinetic energy generated by the wind rotates the blades of windmills to produce chemical energy. ( )
4. The amount of solar energy that reaches the earth may vary from one region to another. ( )

3 Answer the following questions

1. It is preferable to use the public transportation instead of private cars. Explain why.
   - ....
2. The solar heater is placed at the top of buildings. (Give a reason.)
   - ....

Model (3)

15 Marks

1 Choose the correct answer:

1. .... is produced from burning the fossil fuels.

   a) Carbon dioxide gas b) Oxygen gas c) Carbonic acid d) Water vapor

2. .... is one of the negative effects of fossil fuels burning that causes lung irritation and respiratory diseases.

   a) Global warming b) Acid rain c) Deforestation d) Smog

3. The non-renewable resources of energy take .... to be formed.

   a) a short period of time b) a very long period of time

   c) few minutes d) few hours

4. Water turbines can generate more electricity by increasing .... energy of water that is stored in dams.

   a) light b) sound c) thermal d) potential

2 Write the scientific term:

1. It is a phenomenon in which the Earth's temperature increases, when carbon dioxide gas increases in air.

   (Global warming)

2. The device in the electric power station that turns kinetic energy into electrical energy.

   (Generator)

3. A type of mirrors that is used to collect and focus sunlight onto metal pots to heat them and cook the food inside. (Curved mirror)

4. The device in the electric power station that turns kinetic energy into electric energy.

   (Electric generator)

3 Answer the following questions:

1. An increase in the burning of fossil fuels causes acid rain. (Give a reason).

   - ....

2. Farmers use green houses to plant crops that grow in warm climates. (Give a reason).

   - ....

Model (4)

15 Marks

1 Choose the correct answer:

1. Water is similar to fuel as both ....
   a) are renewable sources of energy
   b) cause environmental pollution
   c) are sources of energy
   d) have the same chemical composition
2. Burning of fossil fuels causes ....
   a) acid rain
   b) environmental pollution
   c) global warming
   d) All the previous answers
3. Inside the electric power station, heating of .... produces steam.
   a) turbines
   b) generator
   c) water
   d) fuel
4. Using of water to generate electricity depends on places ....
   a) with strong winds
   b) with weak winds
   c) where dams are built on rivers
   d) where boats sail in rivers

2 Complete the following sentences:

1. From the disadvantages resulting from the use of fossil fuels is ....
2. Coal and .... can be used in electric power stations to generate electricity.
3. In water turbines, the .... energy of water movement is converted into a type of electrical energy which is called ....
4. Radiant energy is used to generate electricity directly by using ...., or indirectly as it causes .... blowing that is used to rotate windmills.

3 Answer the following questions:

1. We must turn off the light after leaving the room. Explain why.
   - ....
2. What happens when the water supply that surrounds some modern watermills dries up?
   - ....

Model (5)

15 Marks

1 Choose the correct answer:

1. All of the following sentences represent the negative effects on the environment, except ....
   a) Burning fuel to obtain energy produces smog
   b) Chemicals used in factories pollute the air
   c) Pesticides used in farms
   d) Using public transportation instead of private cars
2. Fossil fuels are classified as non-renewable because they ....
   a) require expensive equipment to extract
   b) take millions of years to be replaced
   c) can be found everywhere
   d) provide all the energy we use
3. Remains of living organisms that were buried under the Earth's surface must be affected by .... to form fossil fuel.
   a) low pressure and high temperature
   b) high pressure and high temperature
   c) high pressure and low temperature
   d) low pressure and low temperature
4. Solar panels use solar energy to generate .... energy which is used in lighting houses.
   a) electrical
   b) sound
   c) thermal
   d) potential

2 Put (✓) or (✗):

1. Smog is full of large particles that we breathe. ( )
2. The potential energy operates the electric generator. ( )
3. River water stores kinetic energy. ( )
4. Wind is non-renewable energy resource. ( )

3 Answer the following questions:

1. It is necessary to rationalize the consumption of water. What is the reason?
   - ....
2. What happens when the water of rivers falls from high slopes.
   - ....

Model (1)



1 Choose the correct answer:

1. From the factors that help in the formation of fossil fuels are ....

   a) the decomposition of the dead living organisms

   b) accumulation of sediments

   c) pressure and heat

   d) All the previous answers

2. Electricity is produced from ....

   a) renewable resources only

   b) non-renewable resources only

   c) renewable and non-renewable resources

   d) No correct answer

3. All the following conserve using of fossil fuels except ....

   a) cycling b) walking c) using cars d) using solar energy

4. The solar energy is converted into .... energy in greenhouses.

   a) electrical b) sound c) thermal d) kinetic

2 Complete the following sentences:

1. In electric power stations, ...turbines............. operate the electric generator.
2. Carbon dioxide gas combines with water causes ....acidic rains..............
3. The wind blows due to the difference in .... temperatures.......... between the hot and cold air.
4. By decreasing the number of blades, the speed of rotation of turbines will .... increase...........

3 Answer the following questions:

1. Wind and water are considered renewable sources of energy. Give reason.

   - Because they are natural materials that can be renewed soon after using them.

2. What happens when the potential energy of water increases in a dam containing water turbines?

   - The kinetic energy increases, and thus more electrical energy is produced.

Model (2)

15 Marks

1 Choose the correct answer:

1. Generators convert kinetic energy into .... energy which is transmitted through wires.

a) potential b) electrical c) magnetic d) heat

2. In addition to long periods, all of the following are factors that help in the formation of fossil fuels except ....

a) extreme heat
b) decomposition of the dead organisms
c) freshwater
d) high pressure

3. Which of the following is a preferred natural resource for generating clean energy? ....

a) Ocean and river waters
b) Dry trees and herbs
c) Water, coal, and oil
d) Wind, oil, and natural gas

4. All the following are from the uses of electricity generated by solar panels except ....

a) operating irrigation equipment
b) operating windmills
c) operating calculators
d) lighting streets

2 Put (✓) or (✗):

1. In an electric power station, thermal energy is used to heat water and form steam. (✓)
2. To conserve fuel, lit all lights even when you don't need them. (✗)
3. The kinetic energy generated by the wind rotates the blades of windmills to produce chemical energy. (✗)
4. The amount of solar energy that reaches the earth may vary from one region to another. (✓)

3 Answer the following questions

1. It is preferable to use the public transportation instead of private cars. Explain why.

- To decrease fossil fuels consumption.

2. The solar heater is placed at the top of buildings. (Give a reason.)

- To heat the water when it passes through its tube, then it is stored in a hot water tank.

Model (3)

15 Marks

1 Choose the correct answer:

1. .... is produced from burning the fossil fuels.

   a) Carbon dioxide gas   b) Oxygen gas   c) Carbonic acid   d) Water vapor

2. .... is one of the negative effects of fossil fuels burning that causes lung irritation and respiratory diseases.

   a) Global warming   b) Acid rain   c) Deforestation   d) Smog

3. The non-renewable resources of energy take .... to be formed.

   a) a short period of time   b) a very long period of time

   c) few minutes   d) few hours

4. Water turbines can generate more electricity by increasing .... energy of water that is stored in dams.

   a) light   b) sound   c) thermal   d) potential

2 Write the scientific term:

1. It is a phenomenon in which the Earth's temperature increases, when carbon dioxide gas increases in air.

   (Global warming)

2. The device in the electric power station that turns kinetic energy into electrical energy.

   (Generator)

3. A type of mirrors that is used to collect and focus sunlight onto metal pots to heat them and cook the food inside. (Curved mirror)

4. The device in the electric power station that turns kinetic energy into electric energy.

   (Electric generator)

3 Answer the following questions:

1. An increase in the burning of fossil fuels causes acid rain. (Give a reason).

   - Due to the increase in the percentage of carbon dioxide gas that reacts with water vapor forming the acid rains.

2. Farmers use green houses to plant crops that grow in warm climates. (Give a reason).

   - Because it helps farmers in planting crops that need hot weather in winter.

Model (4)

15 Marks

1 Choose the correct answer:

1. Water is similar to fuel as both ....

   a) are renewable sources of energy
   b) cause environmental pollution
   c) are sources of energy
   d) have the same chemical composition

2. Burning of fossil fuels causes ....

   a) acid rain
   b) environmental pollution
   c) global warming
   d) All the previous answers

3. Inside the electric power station, heating of .... produces steam.

   a) turbines
   b) generator
   c) water
   d) fuel

4. Using of water to generate electricity depends on places ....

   a) with strong winds
   b) with weak winds
   c) where dams are built on rivers
   d) where boats sail in rivers

2 Complete the following sentences:

1. From the disadvantages resulting from the use of fossil fuels is ....air pollution ....
2. Coal and .... natural gas........ can be used in electric power stations to generate electricity.
3. In water turbines, the .... kinetic........ energy of water movement is converted into a type of electrical energy which is called .... hydroelectricity........ .
4. Radiant energy is used to generate electricity directly by using .... solar panels........, or indirectly as it causes .... wind .... blowing that is used to rotate windmills.

3 Answer the following questions:

1. We must turn off the light after leaving the room. Explain why.

   - To save electricity.

2. What happens when the water supply that surrounds some modern watermills dries up?

   - Electrical energy cannot be produced.

Model (5)

15 Marks

1 Choose the correct answer:

1. All of the following sentences represent the negative effects on the environment, except ....
   - a) Burning fuel to obtain energy produces smog
   - b) Chemicals used in factories pollute the air
   - c) Pesticides used in farms
   - d) Using public transportation instead of private cars

2. Fossil fuels are classified as non-renewable because they ....
   - a) require expensive equipment to extract
   - b) take millions of years to be replaced
   - c) can be found everywhere
   - d) provide all the energy we use

3. Remains of living organisms that were buried under the Earth's surface must be affected by .... to form fossil fuel.
   - a) low pressure and high temperature
   - b) high pressure and high temperature
   - c) high pressure and low temperature
   - d) low pressure and low temperature

4. Solar panels use solar energy to generate .... energy which is used in lighting houses.
   - a) electrical
   - b) sound
   - c) thermal
   - d) potential

2 Put (✓) or (✗):

1. Smog is full of large particles that we breathe. (✗)
2. The potential energy operates the electric generator. (✗)
3. River water stores kinetic energy. (✗)
4. Wind is non-renewable energy resource. (✗)

3 Answer the following questions:

1. It is necessary to rationalize the consumption of water. What is the reason?
   - Because water may not be replaced as quickly as we need it.
2. What happens when the water of rivers falls from high slopes.
   - Potential energy is converted into kinetic energy.

Self-Assessments
on Concept (3.2)

Self-Assessment 5 On Lesson 1

1 (A) Choose the correct answer :

1. To move a car, the fuel must be .... the car engine at first.
   a. freezed inside b. cooled inside
   c. burned inside d. removed from
2. On driving a car for a very long distance, which of the following sentences describes the most important thing for the driver ? ....
   a. The presence of passengers.
   b. The presence of a radio.
   c. The fuel tank is completely filled with gasoline.
   d. The fuel tank contains a little amount of gasoline.
3. On burning fuel, we obtain ....
   a. sound energy. b. potential energy.
   c. electrical energy. d. thermal energy.

(B) Give a reason for the following :

The importance of wood and coal as fuels in some houses.

....

2 (A) Put (✓) or (✗) :

1. Energy that is produced from burning gasoline, cannot be used to move a car. (   )
2. Burning of all forms of fuel produces thermal energy. (   )
3. If the fuel in a car decreases during driving, the driver must stop at the nearest fuel station to supply the car with gasoline. (   )

(B) Mention three different forms of fuel.

....

....

3 Put each of the following words in front of the suitable sentence :

[The Sun – Wood – Gasoline – Thermal energy]

1. It is a form of fuel that is used in different means of transportation. (........................)
2. It is a form of fuel that is used in warming houses. (........................)
3. It is a form of energy which is produced from burning fuel. (........................)
4. The main source of most energies on the Earth's surface. (........................)

Self-Assessment 6 till Lesson 2

1 **(A) Choose the correct answer :**

1. Car engines can be operated by ....
   a. coal only. b. coal and wood.
   c. gasoline only. d. gasoline and natural gas.
2. Fossil fuels were formed under the Earth's surface from dead plants or animals, after a .... period of time.
   a. very short b. short c. very long d. long
3. The two main types of fuel are ....
   a. wood and coal. b. water and wind.
   c. the Sun and the moon. d. fossil fuels and biofuels.

(B) Give a reason for the following :

Biofuel is considered as a renewable fuel.

....

2 **(A) Put (✓) or (✗) :**

1. Coal can be used to produce electrical energy. (   )
2. Coal, gasoline and wood are considered as renewable resources of energy. (   )
3. The nonrenewable resources of energy include coal, gasoline and water. (   )

(B) What happens if ... ?

Sea creatures were buried under the Earth's surface over millions of years.

....

3 **Choose from column (B) what suits it in column (A) :**

(A) Form of fuel	(B) We can get it from
1. Wood 2. Oil 3. Coal 4. Liquid biofuels	a. wood chips and grass. b. cutting of trees. c. decomposition of sea creatures underground. d. decomposition of plants remains underground. e. boiling water.

1. .... 2. .... 3. .... 4. ....

Self-Assessment 7 till Lesson 3

1 **(A) Choose the correct answer :**

1. To produce steam inside the electric power station, we have to ....
   a. cool water. b. freeze water.
   c. heat water. d. cool fuel.
2. The devices in the electric power station which operated by steam are called ....
   a. generators. b. turbines.
   c. tubes. d. wires.
3. The generator inside the electric power station, turns ....
   a. water into steam. b. steam into water.
   c. electrical energy into kinetic energy.
   d. kinetic energy into electrical energy.

(B) What happens if ...?

A generator in an electric power station is damaged.

....

2 **(A) Put (✓) or (✗) :**

1. When fuel is burned, it produces thermal energy. ( )
2. Turbines convert kinetic energy into electrical energy. ( )
3. The electrical energy produced from electric power station can be used in houses, streets and factories. ( )

(B) Complete the following sentences by choosing the correct answer from those between brackets :

1. Fossil fuels are [nonrenewable – renewable] resources of energy which can be used to generate electrical energy.
2. Turbines in electric power stations are operated by the effect of [steam – sand].
3. Electrical energy travels from electric power stations to houses through [cars – wires].

3 **From your understanding of how electricity is generated in electric power stations. Put each of the following words in front of its suitable sentence :**

[Coal – Steam – Turbine – Generator]

1. Its movement produces kinetic energy. (........................)
2. It changes kinetic energy into electrical energy. (........................)
3. It is a type of nonrenewable resources of energy. (........................)
4. It is resulted from heating the water and it turns turbines. (........................)

Self-Assessment 8 till Lesson 4

1 (A) Choose the correct answer :

1. When carbon dioxide gas increases in air, the Earth's temperature ....
   a. decreases slowly. b. increases slowly.
   c. decreases fastly. d. doesn't change.
2. All forms of fossil fuel are formed ....
   a. above the Earth's surface. b. under the Earth's surface.
   c. above the water surface. d. in the air around us.
3. We have to protect rocks of buildings from ....
   a. global warming. b. oxygen gas.
   c. acid rain. d. carbon dioxide gas.

(B) Give a reason for the following :

Burning of coal and oil causes the increase of the Earth's temperature.

....

....

2 (A) Put (✓) or (✗) :

1. Acid rain causes global warming. ( )
2. Burning of fossil fuels produces gases that don't cause global warming. ( )
3. Acid rains have negative effects on both soil and water of lakes. ( )

(B) What happens to ...?

The Earth's temperature if the amount of gases produced from burning of fossil fuels increases to very high limit.

....

3 Scientists do some experiments to know the bad effects of some different sources of pollution on living organisms.

Match each experiment with its correct observation :

The experiment	The observation
1. Exposing a dog to cars smog for a few minutes	a. its leaves turn brown and it will die.
2. Placing a building rock in a cup contains a sample of acid rain for a long period of time	b. irritation of its eyes and lungs.
3. Watering a small plant with acid rain for a week	c. it will decompose into small rocky particles.

1. .... 2. .... 3. ....

Self-Assessment 9 till Lesson 5

1 (A) Choose the correct answer :

1. The energy that originally causes the formation of fuels is ....
   a. wind energy. b. water energy.
   c. solar energy. d. electrical energy.
2. As the time passes, the amount of coal will ....
   a. increase. b. decrease.
   c. remain constant. d. increase then decrease.
3. Burning of fossil fuels produces ....
   a. only gases that pollute the air.
   b. only thermal energy.
   c. gases that pollute the air and solar energy.
   d. thermal energy and gases that pollute the air.

(B) Give a reason for the following :

Burning fossil fuels causes global warming.

....

2 (A) Put (✓) or (✗) :

1. Renewable forms of fuel can be replaced faster than nonrenewable forms of fuel. ( )
2. Mixing of water with oxygen gas produces acid rain. ( )
3. Burning coal releases gases which cause air pollution. ( )

(B) What happens to ...?

The people's health if they live in a city that has too much cars smog.

....

3 Complete the following paragraph by using the following words :

[global warming – heat – raises – gases]

From the disadvantages of using fossil fuels is that when they are burned, they release .... that cause air pollution and trap .... in the atmosphere, which .... the temperature on the Earth, that causes .... and changes the Earth's climate.

Self-Assessments
on Concept (3.3)

Self-Assessment 10 On Lesson 1

1 **(A) Choose the correct answer :**

1. The solar panels use solar energy to generate .... energy that is used to light up lamps of light posts in streets.
   a. thermal b. kinetic
   c. electrical d. light
2. All the following are considered as nonrenewable energy resources, except ....
   a. coal. b. wind.
   c. natural gas. d. petroleum.
3. Wind turbines generate electricity that can be used to operate all the following devices, except ....
   a. television. b. electric blender.
   c. hair dryer. d. hand bell.

(B) Give a reason for the following :

Modern water turbines are connected to generators.

....

....

2 **(A) Put (✓) or (✗) :**

1. Wind and water are considered as nonrenewable energy resources. ( )
2. Water is used to operate wind turbines to generate electricity. ( )
3. Hundreds of years ago, people used windmills to crush grain to make flour. ( )

(B) What happens if ... ?

Radiant energy that comes out of the Sun enters the greenhouses.

....

....

3 Look at the opposite picture, then complete the following sentences :

1. The name of this glass building is ....
2. The idea of working of this glass building depends on collecting the .... energy coming from the Sun.
3. The received energy is converted into .... energy that warms the inside of this building.
4. In the cold regions, this building allows farmers to plant crops that only grow in .... climates.

Self-Assessment 11 till Lesson 2

1 (A) Complete the following sentences :

1. Radiant energy is used to generate electricity directly by using .... , or indirectly as it causes blowing of .... that is used to rotate wind turbines.
2. A wind turbine spins faster when the kinetic energy of .... increases.
3. The energies that are produced from modern wind turbines and old windmills are considered as .... energy resources.

(B) Give a reason for the following :

Some electrical devices have solar panels.

....

....

2 (A) Put (✓) or (✗) :

1. Solar panels are used to generate sound energy in some types of street lamps. ( )
2. When the kinetic energy of wind that is applied to the wind turbines increases, they produce more electricity. ( )
3. Both solar panels and natural gas are renewable energy resources. ( )

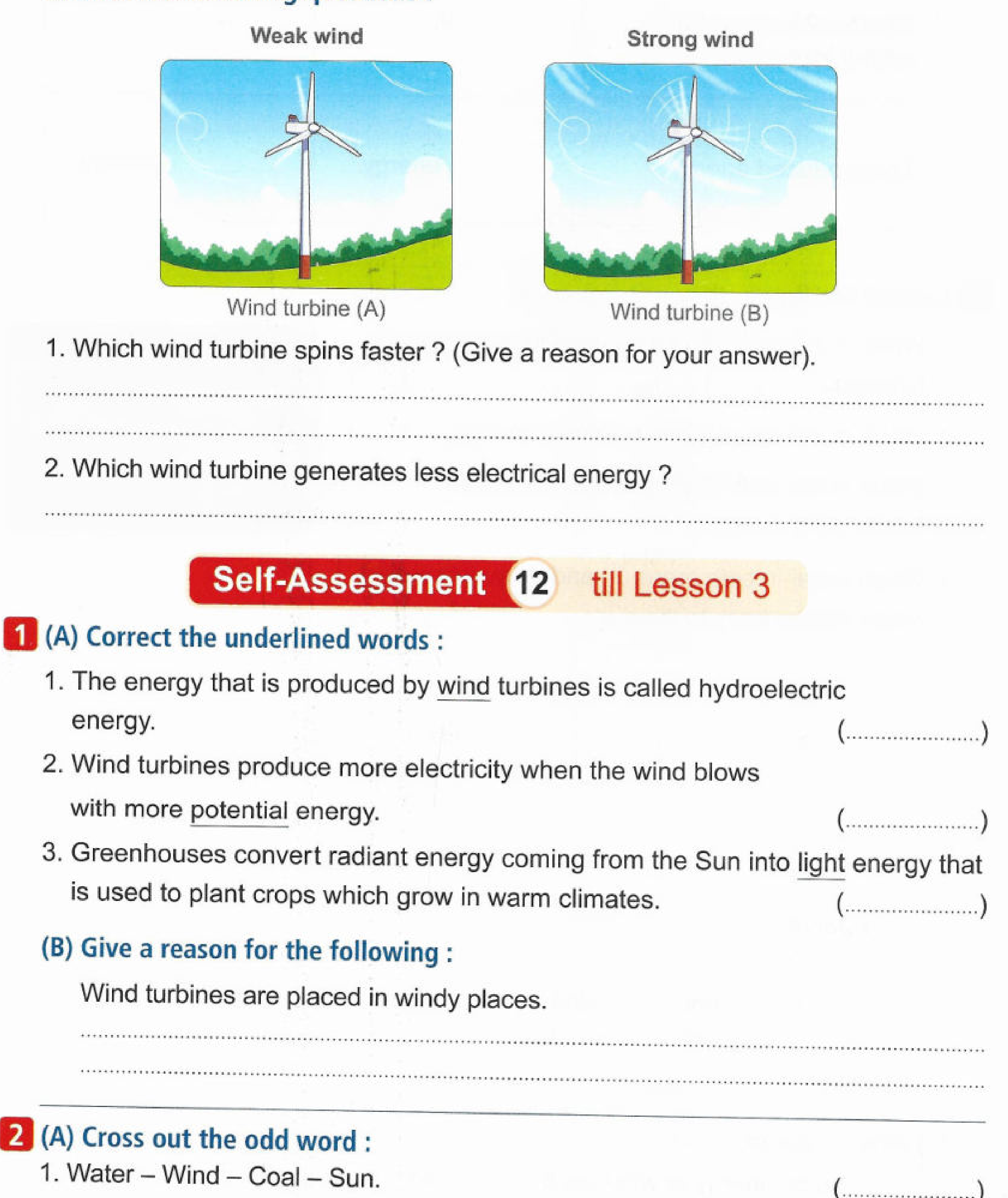
(B) What happens if ...?

The kinetic energy of wind applied to the wind turbines decreases.

....

....

3 **If the two wind turbines in front of you are affected by the different wind forces. Answer the following questions :**



Wind turbine (A) Wind turbine (B)

1. Which wind turbine spins faster ? (Give a reason for your answer).

....

....

2. Which wind turbine generates less electrical energy ?

....

Self-Assessment 12 till Lesson 3

1 **(A) Correct the underlined words :**

1. The energy that is produced by <u>wind</u> turbines is called hydroelectric energy. (......................)
2. Wind turbines produce more electricity when the wind blows with more <u>potential</u> energy. (......................)
3. Greenhouses convert radiant energy coming from the Sun into <u>light</u> energy that is used to plant crops which grow in warm climates. (......................)

(B) Give a reason for the following :

Wind turbines are placed in windy places.

....

....

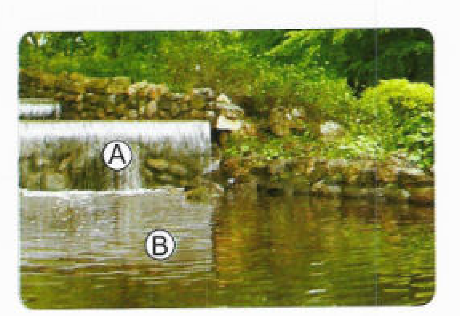
2 **(A) Cross out the odd word :**

1. Water – Wind – Coal – Sun. (......................)
2. Solar water heater – Hand mixer – Solar panel – Greenhouse. (......................)
3. Gasoline – Coal – Natural gas – Wind. (......................)

(B) Compare between water turbines and solar panels in the table below :

Points of comparison	Water turbines	Solar panels
1. Source of energy that is used to operate it :	....	....
2. The produced energy :	.... energy.	.... energy.

3 Look at the figure, then put (✓) or (✗) :



1. Water in the area Ⓐ can be used in rotating water turbines. ( )
2. Water in the area Ⓐ has no kinetic energy. ( )
3. Water in the area Ⓑ may evaporate in the presence of sunlight. ( )
4. When water in both areas Ⓐ and Ⓑ evaporates, it never returns back to the river. ( )





March Questions Bank





CONCEPT 3.2

Question 01 choose the corret answer

1. All forms of fossil fuel are formed ....
   - (a) above earth's surface
   - (b) under earth's surface
   - (c) above water surface
   - (d) in air around us

   Behira 2023

2. All the following are forms of fossil fuel, except ....
   - (a) water
   - (b) coal
   - (c) natural gas
   - (d) oil

   Minia 2023

3. Among the following resources, we must conserve ....
   - (a) Solar energy - coal
   - (b) Solar energy - wind
   - (c) Solar energy and oil
   - (d) Oil and coal

   Alex 2023

4. All the following are renewable resources of energy, except ....
   - (a) natural gas
   - (b) water
   - (c) the sun
   - (d) wind

   Cairo 2023

5. From examples of renewable resources of energy is ....
   - (a) oil
   - (b) wind
   - (c) coal
   - (d) natural gas

   Qalyoubia 2023

6. The sun and wind are considered as .... resources of energy.
   - (a) renewable
   - (b) nonrenewable
   - (c) destroyed
   - (d) Harmful

   El-Behira: Kafr El-Dawar 2023

7. The resource that we consume in a rate faster than its formation in nature ....
   - (a) Wind
   - (b) Water
   - (c) Solar energy
   - (d) Fossil fuel

   School book

8. .... is a renewable source of energy.
   - (a) Coal
   - (b) Natural gases
   - (c) Water
   - (d) Fossil fuel

   School book

Question 02 put (true) or (false)

1. The movement of a generator in electric power station produces potential energy. ( )
Giza 2023

2. Wind is a nonrenewable energy resource. ( )
Suez: South Zone2023)

3. The use of fossil fuels to produce energy costs more money than using renewable resources ( )
Giza 2023

4. Smog doesn't cause any damage in the human respiratory system ( )
Alex 2023

5. Fossil fuels that human made from corn can be replaced as it is used ( )
Cairo 2023

6. Generator in the electric power station changes potential energy into electrical energy ( )
Giza 2023

7. Wind, oil and natural gas are natural resources used to generate clean energy ( )
(Cairo: Heliopolis2023)

8. Using solar energy is a way to conserve fossil fuels. ( )
Dakahlia: 2023)

9. Using fossil fuels keeps the environment from pollution. ( )
Cairo Zeitoun 2023

Question 03 Complete the following sentences

1. Factories may cause pollution of .... and .... due to the chemicals they use
Cairo 2023

2. Global warming causes the raise of .... of earth and change its ....
Giza 2023

3. Coal and .... can be used in electric power stations to generate electricity
(Ministry models 2022



4. Turbines in electric power stations are turned by steam and they produce .... energy to run the .... of the electric power stations
(Ministry models 2022

5. The electric generator changes ....energy into .... energy
(Ministry models 2022

Question 04 write scientific term for each of the following

1. It is the system that its tissue is damaged due to breathing big amount of cars smog ( )
2. The device in the electric power station, that converts kinetic energy into electrical energy. ( )
3. It is type of rain that is formed when carbon dioxide gas combines with water in the air ( )
4. The increase of Earth's temperature, as a result of burning fossil fuels ( )
5. The energy resources that include wind energy and water energy ( )
6. The device in the electric power station that produces kinetic energy to operate generator ( )

Question 05 Give Reason for each of the following

1. We must turn off lights that we are do not need

....

2. Gasoline is burned inside a car engine

....

3. Wind considered as renewable resources of energy

....

4. Coal considered as non-renewable resources of energy

....



5. Smog of cars is very dangerous to human health.

....

6. Fossil fuels cannot be replaced as quickly as they are used

....

7. Generator are important in electric power stations

....

8. The fuel is very important for different means of transportation.

....

9. Using wood as a fuel has negative effects on the environment

....

10. Farmers must decrease the use of pesticides

....

Question 06 What happens if ?

1. The amount of fossil fuels if people don't conserve their use

....

2. Acid rain falls on building.

....

3. To the Earth's temperature if we use renewable resources of energy instead of fossil fuels

....

Question 07 cross the odd word

1. Gasoline - Coal - Natural gas - Wind. Giza: 2023)
2. Wood-natural gas-gasoline-glass. (Dakahlia: 2023)

Question 01 — choose the corret answer

CONCEPT 3.3

1. All of the following are examples of renewable energy resources, except ....
   - (a) fossil fuel
   - (b) waterfalls
   - (c) wind
   - (d) sunlight

   (Cairo 2023)

2. The solar energy is converted into .... energy in greenhouses.
   - (a) electrical
   - (b) sound
   - (c) thermal
   - (d) Potential

   (Cairo 2023)

3. The Sun provide us with ...., ...
   - (a) Sound – Heat
   - (b) Light - Electricity
   - (c) Sound - Light
   - (d) Heat – Light

   (Giza: 2023)

4. Which of the following energy forms isn't produced from the Sun?
   - (a) Thermal energy
   - (b) Light energy
   - (c) Kinetic energy
   - (d) Radiation energy

   School book

5. When the blades of wind turbines rotate, this causes their turbines to rotate that leads to generating .... energy.
   - (a) electrical
   - (b) solar
   - (c) chemical
   - (d) Potential

   (Alex. 2023)

6. Water flows through turbines in hydroelectric dams to generate .... energy
   - (a) electrical
   - (b) potential
   - (c) solar
   - (d) light

   (Giza: Agoza Zone2023)

7. In water turbines, the .... energy of water is changed into electrical energy
   - (a) chemical
   - (b) kinetic
   - (c) thermal
   - (d) light

   (Qalyoubia 2023)

8. Energy produced from flowing water of waterfalls, dams and turbines is called ....
   - (a) mechanical energy
   - (b) hydroelectric energy
   - (c) chemical energy
   - (d) kinetic energy

   School book

9. Which of the following is a preferred natural resource to generate clean energy?
   - (a) Ocean and river water
   - (b) Trees and dry herbs
   - (c) Water, coal, oil
   - (d) Wind, oil, and natural gas.

10. Water turbines can generate more electricity by increasing the .... energy of water that is stored behind dams.

ⓐ light ⓑ sound ⓒ thermal ⓓ potential

(Giza: Dokki Zone2023)

Question 02 put (true) or (false)

1. Machines makes our life easier. (   )
(Qalyobia 2023)

2. We use solar energy to preserve food. (   )
(Ministry models 2022

3. Windmills always do their job all the time, because the wind never stop blowing (   )
(Behira 2023)

4. The Sun is the main source of energy on Earth. (   )
(Cairo 2023)

5. The Sun provides the Earth with light and heat. (   )
(Behira 2023)

6. Wind is a renewable energy resource. (   )
(Qalyobia 2023)

7. Using solar energy is a way to conserve fossil fuels. (   )
(Cairo:2023)

8. Both modern wind turbines and old windmills are used to generate electricity (   )
(Ministry models 2022

9. In wind turbines, the kinetic energy is converted into chemical energy. (   )
(Cairo 2023)

10. Electricity generated by wind turbines is transmitted through wind. (   )
(Ministry models 2022

11. Waterfalls are considered as nonrenewable energy resources (   )
(Dakahlia 2023)

12. Electrical energy can be generated from both waterfalls and wind movement. (   )
(Cairo 2023)

13. The flow of water can be controlled to generate electricity in dams. ( )
(Cairo 2023)

14. Electricity can be generated from water. ( )
(Cairo . Rod El Farag2023)

15. Water is one of the sources of electricity production in Egypt ( )
Ministry models 2022

16. Dams are built on river to control the wind flow. ( )
(Cairo:2023)

17. Rivers store kinetic energy. ( )
(Ministry models 2022

18. Dams are built on rivers in order to generate solar energy ( )
(Minia 2023)

19. The watermills convert electrical energy into kinetic energy. ( )
(Cairo . Rod El Farag2023)

Question 03 Complete the following sentences

1. When we expose our bodies to the Sun, we feel ....
(Cairo: El Waily Zone2023)

2. We can use solar energy in cooking by using curved mirror which collect and focus ....onto metal pots to heat them.
(Ministry models 2022

3. Both wind and water movement produce ....energy that is used to rotate turbines to generate ....energy.
(Cairo 2023)

4. Wind blows due to the difference in ....between the cold air and the hot air.
(Cairo:2023)

5. By increasing the rotation of wind turbine blades, the wind turbine generates more ....energy.
(Alex. 2023)

6. When the ....energy of wind increases, the speed of rotation of turbine blades will ....
(Giza: Dokki Zone2023)

7. Renewable energy resources include ....,...........and ....
(Behira 2023)



8. In water turbines, the ....energy of water movement is converted into a type of electrical energy which is called ....energy.
(Cairo 2023)

9. To avoid air pollution, we must use ....resources of energy such as water.
(Ministry models 2022

10. The Sun provides Earth with light and ....
(El-Behira: Kafr El-Dawar 2023)

Question 04 write scientific term for each of the following

1. A mill that is turned by water flow. ( )
(Minia 2023)

2. A mill that is operated by wind movement. ( )
(Menofia 2023)

3. The type of energy that is produced from wind turbines to operate different home devices. ( )
(Ismailia 2023)

4. They help farmers in cold regions to plant crops which grow only in warm climate. ( )
(Qalyoubia 2023)

5. The energy resources that include wind energy and water energy. ( )
(Ministry models 2022

6. A panel designed to absorb the energy of the sun to generate electricity. ( )
(Qalyoubia 2023)

7. A turbine that uses the power of flowing air to generate electricity. ( )
(Giza 2023)

8. A turbine in which the kinetic energy of moving water is used to generate hydroelectric energy. ( )
(Cairo 2023)

9. A build on the river that controls the flow of water and increases the potential energy of water ( )
(Ministry models 2022

10. A type of electrical energy generated by water turbines in dams. ( )
(Ministry models 2022

Question 05 Give Reason for each of the following

1. We feel warm at night although the sun is not visible in the sky

....

2. Hydroelectric dams are built on rivers

....

3. Humans used windmills and watermills from hundreds of years ago

....

4. Kinetic energy of wind affects the speed of wind turbine blades rotation

....

5. Water turbines are placed in waterfalls areas

....

6. Sometimes wind turbines are useless

....

Question 06 What happens if ?

1. Sunlight falls on a greenhouse

....

2. Water of sea evaporates then condenses in air

....

3. Wind doesn't blow in an area that contains many modern wind turbines

....

4. The kinetic energy of a wind that is applied on the wind turbine increases

....

5. The presence of solar panels in some electrical devices

....

6. The solar cell in a calculator exposed to sunlight

....

7. There is difference in temperature of air around Earth

....

Question 08 — Answer the following questions

- **Choose from column (B) what suits it in column (A)**

1

(A)		(B)	
1	Solar panels	a	use in cooking food by converting solar energy into heat energy.
2	Curved mirrors	b	It was used to grind grain.
3	Old windmills	c	use to generate electricity from solar energy
		d	Convert kinetic energy into electrical energy.

2

(A)		(B)	
1	Turbines	a	Water is heated using the energy of the sun.
2	Greenhouse	b	Convert kinetic energy into electrical energy
3	Solar heater	c	It helps to grow crops that only grow in warm climates
		d	Non-renewable energy source

3

- **From the opposite figures:**



1. What is the name of this device?



2. The change of energy from .... energy to .... energy.

انتهت الأسئلة مع أطيب الامنيات بالنجاح والتوفيق

Answers









March Questions Bank

Question 01 choose the corret answer

CONCEPT 3.2

1. All forms of fossil fuel are formed ....
   - (a) above earth's surface
   - (b) under earth's surface
   - (c) above water surface
   - (d) in air around us

   Behira 2023

2. All the following are forms of fossil fuel, except ....
   - (a) water
   - (b) coal
   - (c) natural gas
   - (d) oil

   Minia 2023

3. Among the following resources, we must conserve ....
   - (a) Solar energy - coal
   - (b) Solar energy - wind
   - (c) Solar energy and oil
   - (d) Oil and coal

   Alex 2023

4. All the following are renewable resources of energy, except ....
   - (a) natural gas
   - (b) water
   - (c) the sun
   - (d) wind

   Cairo 2023

5. From examples of renewable resources of energy is ....
   - (a) oil
   - (b) wind
   - (c) coal
   - (d) natural gas

   Qalyoubia 2023

6. The sun and wind are considered as .... resources of energy.
   - (a) renewable
   - (b) nonrenewable
   - (c) destroyed
   - (d) Harmful

   El-Behira: Kafr El-Dawar 2023

7. The resource that we consume in a rate faster than its formation in nature ....
   - (a) Wind
   - (b) Water
   - (c) Solar energy
   - (d) Fossil fuel

   School book

8. .... is a renewable source of energy.
   - (a) Coal
   - (b) Natural gases
   - (c) Water
   - (d) Fossil fuel

   School book

Question 02 put (true) or (false)

1. The movement of a generator in electric power station produces potential energy. 
Giza 2023

2. Wind is a nonrenewable energy resource. 
Suez: South Zone2023)

3. The use of fossil fuels to produce energy costs more money than using renewable resources 
Giza 2023

4. Smog doesn't cause any damage in the human respiratory system 
Alex 2023

5. Fossil fuels that human made from corn can be replaced as it is used 
Cairo 2023

6. Generator in the electric power station changes potential energy into electrical energy 
Giza 2023

7. Wind, oil and natural gas are natural resources used to generate clean energy 
(Cairo: Heliopolis2023)

8. Using solar energy is a way to conserve fossil fuels. 
Dakahlia: 2023)

9. Using fossil fuels keeps the environment from pollution. 
Cairo Zeitoun 2023

Question 03 Complete the following sentences

1. Factories may cause pollution of air, soil and water due to the chemicals they use
Cairo 2023

2. Global warming causes the raise of temperature of earth and change its climate
Giza 2023

3. Coal and oil can be used in electric power stations to generate electricity
(Ministry models 2022



4. Turbines in electric power stations are turned by steam and they produce kinetic energy to run the generator of the electric power stations (Ministry models 2022

5. The electric generator changes kinetic energy into electric energy (Ministry models 2022

Question 04 write scientific term for each of the following

1. It is the system that its tissue is damaged due to breathing big amount of cars smog — respiratory system
2. The device in the electric power station, that converts kinetic energy into electrical energy. — generator
3. It is type of rain that is formed when carbon dioxide gas combines with water in the air — Acid rain
4. The increase of Earth's temperature, as a result of burning fossil fuels — Global warming
5. The energy resources that include wind energy and water energy — Renewable energy resources
6. The device in the electric power station that produces kinetic energy to operate generator — turbine

Question 05 Give Reason for each of the following

1. We must turn off lights that we are do not need
   To conserve electricity
2. Gasoline is burned inside a car engine
   when gasoline burned it produce thermal energy
   thermal energy change into kinetic energy which cause car move
3. Wind considered as renewable resources of energy
   Because it replaced shortly after using
4. Coal considered as non-renewable resources of energy
   Because it used at a rate faster than they renewed

5 Smog of cars is very dangerous to human health.
Because it causes irrigation of human's eyes and lungs

6 Fossil fuels cannot be replaced as quickly as they are used
Because it takes millions of years to form

7 Generator are important in electric power stations
Because it changes kinetic energy into electrical energy

8 The fuel is very important for different means of transportation.
Because fuel is burned inside the engines to produce thermal energy

Thermal energy change into kinetic energy which cause car move

9 Using wood as a fuel has negative effects on the environment
Because cutting tree cause deforestation

10 Farmers must decrease the use of pesticides
Because it causes pollution of water and soil

Question 06 What happens if ?

1 The amount of fossil fuels if people don't conserve their use
Fossil fuels will run out on the earth

2 Acid rain falls on building.

It dissolves the rocks building

3 To the Earth's temperature if we use renewable resources of energy instead of fossil fuels
The earth's temperature will not increase

Question 07 cross the odd word

1 Gasoline - Coal - Natural gas - Wind. Giza: 2023) **Wind**

2 Wood-natural gas-gasoline-glass. (Dakahlia: 2023) **glass**

Question 01 choose the corret answer

CONCEPT 3.3

1. All of the following are examples of renewable energy resources, except ....

   (a) fossil fuel (b) waterfalls (c) wind (d) sunlight

   (Cairo 2023)

2. The solar energy is converted into .... energy in greenhouses.

   (a) electrical (b) sound (c) thermal (d) Potential

   (Cairo 2023)

3. The Sun provide us with ...., ...

   (a) Sound – Heat (b) Light - Electricity (c) Sound - Light (d) Heat – Light

   (Giza: 2023)

4. Which of the following energy forms isn't produced from the Sun?

   (a) Thermal energy (b) Light energy (c) Kinetic energy (d) Radiation energy

   School book

5. When the blades of wind turbines rotate, this causes their turbines to rotate that leads to generating .... energy.

   (a) electrical (b) solar (c) chemical (d) Potential

   (Alex. 2023)

6. Water flows through turbines in hydroelectric dams to generate .... energy

   (a) electrical (b) potential (c) solar (d) light

   (Giza: Agoza Zone2023)

7. In water turbines, the .... energy of water is changed into electrical energy

   (a) chemical (b) kinetic (c) thermal (d) light

   (Qalyoubia 2023)

8. Energy produced from flowing water of waterfalls, dams and turbines is called ....

   (a) mechanical energy (b) hydroelectric energy (c) chemical energy (d) kinetic energy

   School book

9. Which of the following is a preferred natural resource to generate clean energy?

   (a) Ocean and river water (b) Trees and dry herbs (c) Water, coal, oil (d) Wind, oil, and natural gas.

10. Water turbines can generate more electricity by increasing the .... energy of water that is stored behind dams.
   (a) light (b) sound (c) thermal (d) potential

(Giza: Dokki Zone2023)

Question 02 put (true) or (false)

1. Machines makes our life easier. 
(Qalyobia 2023)

2. We use solar energy to preserve food. 
(Ministry models 2022

3. Windmills always do their job all the time, because the wind never stop blowing 

(Behira 2023)

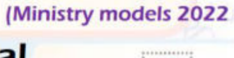
4. The Sun is the main source of energy on Earth. 
(Cairo 2023)

5. The Sun provides the Earth with light and heat. 

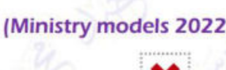
(Behira 2023)

6. Wind is a renewable energy resource. ✓
(Qalyobia 2023)

7. Using solar energy is a way to conserve fossil fuels. 
(Cairo:2023)

8. Both modern wind turbines and old windmills are used to generate electricity 

(Ministry models 2022

9. In wind turbines, the kinetic energy is converted into chemical energy. 
(Cairo 2023)

10. Electricity generated by wind turbines is transmitted through wind. 

(Ministry models 2022

11. Waterfalls are considered as nonrenewable energy resources ✗
(Dakahlia 2023)

12. Electrical energy can be generated from both waterfalls and wind movement. 
(Cairo 2023)

13 The flow of water can be controlled to generate electricity in dams. 

(Cairo 2023)

14 Electricity can be generated from water. 

(Cairo . Rod El Farag2023)

15 Water is one of the sources of electricity production in Egypt 

Ministry models 2022

16 Dams are built on river to control the wind flow. 

(Cairo:2023)

17 Rivers store kinetic energy. 

(Ministry models 2022

18 Dams are built on rivers in order to generate solar energy 

(Minia 2023)

19 The watermills convert electrical energy into kinetic energy. 

(Cairo . Rod El Farag2023)

Question 03 Complete the following sentences

1. When we expose our bodies to the Sun, we feel warm

(Cairo: El Waily Zone2023)

2. We can use solar energy in cooking by using curved mirror which collect and focus sun light onto metal pots to heat them.

(Ministry models 2022

3. Both wind and water movement produce kinetic energy that is used to rotate turbines to generate electrical energy.

(Cairo 2023)

4. Wind blows due to the difference in temperature between the cold air and the hot air.

(Cairo:2023)

5. By increasing the rotation of wind turbine blades, the wind turbine generates more electrical energy.

(Alex. 2023)

6. When the kinetic energy of wind increases, the speed of rotation of turbine blades will increase

(Giza: Dokki Zone2023)

7. Renewable energy resources include sun, wind and water

(Behira 2023)

8. In water turbines, the kinetic energy of water movement is converted into a type of electrical energy which is called hydroelectric energy.
(Cairo 2023)

9. To avoid air pollution, we must use renewable resources of energy such as water.
(Ministry models 2022

10. The Sun provides Earth with light and heat
(El-Behira: Kafr El-Dawar 2023)

Question 04 write scientific term for each of the following

1. A mill that is turned by water flow. **watermill** (Minia 2023)
2. A mill that is operated by wind movement. **windmill** (Menofia 2023)
3. The type of energy that is produced from wind turbines to operate different home devices. **Electrical energy** (Ismailia 2023)
4. They help farmers in cold regions to plant crops which grow only in warm climate. **greenhouses** (Qalyoubia 2023)
5. The energy resources that include wind energy and water energy. **renewable energy resources** (Ministry models 2022
6. A panel designed to absorb the energy of the sun to generate electricity. **Solar panel** (Qalyoubia 2023)
7. A turbine that uses the power of flowing air to generate electricity. **Wind turbine** (Giza 2023)
8. A turbine in which the kinetic energy of moving water is used to generate hydroelectric energy. **Water turbine** (Cairo 2023)
9. A build on the river that controls the flow of water and increases the potential energy of water **Dam** (Ministry models 2022
10. A type of electrical energy generated by water turbines in dams. **Hydroelectric energy** (Ministry models 2022

Question 05 Give Reason for each of the following

1. We feel warm at night although the sun is not visible in the sky
   Because atmosphere, land and water absorb thermal energy from sun
2. Hydroelectric dams are built on rivers
   To control water flow and increase the potential energy of water to generate electricity
3. Humans used windmills and watermills from hundreds of years ago
   To grind grains to make flour
4. Kinetic energy of wind affects the speed of wind turbine blades rotation
   when kinetic energy of wind increase
   → the blades rotate faster
   → wind turbine generates more electricity
5. Water turbines are placed in waterfalls areas
   Because it changes kinetic energy of water into electrical energy
6. Sometimes wind turbines are useless
   when wind doesn't blow
   →wind turbine blades don't move
   → don't generate electricity

Question 06 What happens if ?

1. Sunlight falls on a greenhouse
   Radiant energy from sun changed into thermal energy
2. Water of sea evaporates then condenses in air
   Formation of clouds and rain may fall
3. Wind doesn't blow in an area that contains many modern wind turbines
   The blades of wind turbines don't move and it can't generate electricity
4. The kinetic energy of a wind that is applied on the wind turbine increases
   the blades rotate faster → wind turbine generate more electricity

5. The presence of solar panels in some electrical devices
Solar energy changed into electrical energy

6. The solar cell in a calculator exposed to sunlight
Solar energy changed into electrical energy that charge calculator battery

7. There is difference in temperature of air around Earth
Wind blow

Question 08 — Answer the following questions

- **Choose from column (B) what suits it in column (A)**



(A)		(B)		
1	Solar panels	a	use in cooking food by converting solar energy into heat energy.	1- c
2	Curved mirrors	b	It was used to grind grain.	2-a
3	Old windmills	c	use to generate electricity from solar energy	3-b
		d	Convert kinetic energy into electrical energy.	

2

(A)		(B)		
1	Turbines	a	Water is heated using the energy of the sun.	1-b
2	Greenhouse	b	Convert kinetic energy into electrical energy	2-c
3	Solar heater	c	It helps to grow crops that only grow in warm climates	3-a
		d	Non-renewable energy source	

3

- **From the opposite figures:**



1. What is the name of this device? Solar panel

2. The change of energy from solar energy to electrical energy

انتهت الأسئلة مع أطيب الامنيات بالنجاح والتوفيق



March Revision

Mr. Ahmed Elbasha

✸ (1) Write the scientific term:

1)	It is a phenomenon in which the Earth's temperature increases, when carbon dioxide gas increases in the air	(..............................)
2)	It is a system in the human body that is damaged due to breathing a big amount of smog	(..............................)
3)	It is a type of rain that is formed when carbon dioxide gas combines with water in the air.	(..............................)
4)	The type of fuels that when burned, it produces gases which pollute the air.	(..............................)
5)	A mill that is turned by water flow.	(..............................)
6)	A mill that is operated by wind movement	(..............................)
7)	An equipment that is used to convert the kinetic energy of wind into electrical energy	(..............................)
8)	They help farmers in cold regions to plant crops which grow only in warm climate	(..............................)
9)	A panel designed to absorb the energy of the Sun to generate electricity.	(..............................)
10)	A natural movement of air that is resulted from the difference in temperatures between cold air and hot air.	(..............................)
11)	A turbine that uses the power of flowing air to generate electricity.	(..............................)
12)	An energy that is generated from wind turbines and is transmitted through wires to houses and factories	(..............................)
13)	A turbine that converts the energy of falling water into electrical energy.	(..............................)
14)	A type of electrical energy generated by water turbines in dams	(..............................)
15)	A type of dams that is used to generate electricity using the flow of water	(..............................)
16)	A turbine in which the kinetic energy of moving water is used to generate hydroelectric energy.	(..............................)

17)	A process in which water changes into water vapor.	(..............................)
18)	A process in which water vapor changes into water forming clouds.	(..............................)
19)	The main energy which is produced from generators that are connected to both water turbines and wind turbines.	(..............................)
20)	The main source of energy on Earth.	(..............................)
21)	A turbine that uses the power of blowing air to generate electricity.	(..............................)
22)	An equipment consists of panels made of black pipes that is used to heat water at houses.	(..............................)
23)	A turbine in which the kinetic energy of moving water is used to generate electricity	(..............................)
24)	A process by which water changes into water vapor	(..............................)
25)	A natural movement of air that is resulted from the difference in temperatures between cold air and hot air.	(..............................)
26)	They are deep valleys carved by flowing water.	(..............................)
27)	Rocks that are found near seashores and broken by the effect of wind and water over long periods of time.	(..............................)
28)	A process in which rocks are broken down into smaller particles.	(..............................)
29)	A process in which small broken rocks move from a place to another by the help of wind or water.	(..............................)
30)	A process in which the sediments are dropped in a new location by the action of wind, water and gravity.	(..............................)
31)	A part of plant grows inside cracks of rocks causing its weathering.	(..............................)
32)	It is a type of weathering through which acids of lichens dissolve minerals of rocks.	(..............................)
33)	It is a type of caves that is formed when dissolved minerals of rocks combine again in new shapes.	(..............................)
34)	It is a process through which water forming ice in cracks of rocks.	(..............................)
35)	A process in which a large rock is broken into small pieces.	(..............................)

✹(2) Choose the right answer:

1. Air pollution is usually caused due to .... of fuel.

a. cooling b. warming c. freezing d. burning

2. In the water cycle, water .... , then it .... before falling in the form of rains.

a. freezes - evaporates b. evaporates - condenses

c. evaporates – freezes d. condenses - evaporates

3. The reason of flowing of river water downhill is the .... force.

a. pushing b. friction c. gravitational d. electrical

4. Some types of lamps in streets depend directly on .... as a renewable energy resource in order to do its function.

a. sunlight b. petrol c. coal d. natural gas

5. Acid rain is formed when .... combines with rain water.

a. oxygen gas b. carbon dioxide gas c. dust d. sand

6. The breaking of rocks into smaller particles without changing their properties is called ....

a. mechanical weathering. b. chemical weathering.

c. deposition. d. erosion.

7. Which of the following does not cause mechanical weathering ? ....

a. Roots of plants. b. Acid rains.

c. Wind movement. d. Water movement.

8. The breakdown of rocks either mechanically or chemically is called ....

a. rusting. b. weathering. c. deposition. d. erosion.

9. To reduce pollution with smog, we have to operate cars by ....

a. gasoline. b. charcoal. c. electricity. d. coal.

10. Burning fossil fuel produces gases that ....

a. help human to respire. b. help animals survive.

c. pollute the air. d. benefit the environment.

11. Both coal and charcoal ....

a. are renewable resources of energy. b. are nonrenewable resources of energy.

c. are examples of biofuel. d. produce thermal energy on burning.

12. All the following resources are considered renewable resources of energy, except ......

a. water. b. wind energy. c. gasoline. d. solar energy.

13. Among the following resources, we must conserve ....

a. solar energy and coal. b. solar energy and wind energy.

c. wind energy and oil. d. oil and coal

14. Sand is formed due to breaking down of ....

a. glass. b. wood. c. rocks. d. plastic.

15. The deep narrow valley with slopes at its sides and often with water stream flowing through it is known as a ....

a. canyon . b. mountain. c. hill. d. river.

16. The formation of canyons takes ....

a. few minutes. b. few hours. c. few days. d. many years

17. The dropping of sediments in a new place, is known as ....

a. weathering. b. deposition. c. freezing . d. erosion.

18. Limestone caves are formed due to the combination of ....

a. dissolved minerals. b. red-colored rusts.

c. living organisms. d. acid rains.

19. Rusting of a statue is an example of the action of .... process.

a. deposition b. erosion

c. mechanical weathering d. chemical weathering

20. All the following are processes that can change the Earth's surface, except ....

a. digestion. b. erosion. c. weathering. d. deposition.

21. When water freezes, it expands. This means that ....

a. it will evaporates. b. its temperature increases.

c. its volume increases. d. its volume decreases.

22. Rocks can be broken down into small particles by the exposure to all of the following, except ....

a. rain water. b. wind. c. moon. d. water waves.

23. Disappearing a part of a sandcastle due to the effect of sea waves means that all the following have changed, except ....

a. its shape. b. its volume. c. its size. d. its color.

24. All the following are renewable energy resources, except ....

a. waterfalls. b. coal. c. the Sun. d. wind.

25. Kinetic energy of .... movement is used to rotate the blades of wind turbines.

a. the moon b. stars c. water d. wind

26. When the blades of wind turbines rotate, this causes their turbines to rotate that leads to generating .... energy.

a. electrical b. solar c. chemical d. potential

27. The electrical energy is transmitted from wind turbines to houses through ....

a. water. b. wind. c. coal. d. wires.

28. When .... energy of wind increases, the blades of wind turbines spin more quickly.

a. kinetic b. potential c. chemical d. solar

29. All of the following are examples of renewable energy resources, except ....

a. fossil fuel. b. waterfalls. c. wind. d. sunlight.

30. Solar panels use solar energy to generate .... energy which is used in lighting houses.

a. sound b. electrical c. potential d. kinetic

31. Solar water heater changes .... energy into .... energy.

a. electrical - thermal b. solar - sound

c. electrical – sound d. solar - thermal

32. When land and water areas on Earth absorb the solar energy, the .... on Earth increases.

a. temperature b. rocks c. water d. ice

33. The solar energy is converted into .... energy in greenhouses.

a. electrical b. sound c. thermal d. potential

34. Water flows through turbines in hydroelectric dams to generate .... energy.

a. electrical b. potential c. solar d. light

35. In water turbines, the .... energy of water is changed into electrical energy.

a. chemical b. kinetic c. thermal d. light

36. Both waterfalls and .... are renewable energy resources.

a. wind b. coal c. oil d. fossil fuel

37. Both water and wind use .... energy to operate turbines.

a. kinetic b. thermal c. electrical d. solar

38. The form of energy resulted from waterfalls is called .... energy.

a. thermal b. chemical c. solar d. hydroelectric

39. In the water cycle, the water evaporates, then it condenses in form of .... and returns back through rain falling.

a. clouds b. sand c. rocks d. coal

40. If the speed of moving water changes from 5 m/sec to .... m/sec, its kinetic energy will increase.

a. 2 b. 3 c. 4 d. 6

✹(3) Complete the following:

1. The type of electrical energy which is produced by water turbines is called ....
2. Renewable energy resources include .... , ... and ....
3. During .... process, rocks are broken down.
4. There are two types of weathering which are .... weathering and .. weathering.
5. The type of weathering in which the rocks are broken down due to plant roots is known as .... weathering.
6. The type of weathering in which the structure of rocks changes due to chemical reactions is known as .... weathering.
7. Factories may cause pollution of .... , ... and .... due to the chemicals they use.
8. Shaping the Earth started by weathering, then .... and ends with deposition.
9. Breaking a statue is an example of mechanical weathering, while rusting of an iron statue is an example of .... weathering.
10. Mechanical weathering takes place when .... occurs between sand carried by wind and rocks.
11. Burning coal and oil produces .... gas, which combines with .... in air .
12. Increasing the burning of fossil fuel produces more .... gas that causes .... pollution.
13. Burning coal and oil produces .... gas which forms a layer in the atmosphere causing rise in the Earth's temperature in a phenomenon known as ....

14. Global warming causes the raise of .... on Earth and changes its ....

15. If people do not conserve using of .... fuels, they will run out on Earth.

16. Using the .... resources of energy costs more money than using fossil fuels .

17. Both .... and .... are used to crush grain hundreds of years ago .

18. Although modern wind turbines and old windmills vary **in** shape, they all use .... energy to be powered .

19. Both wind and water movement produce .... energy that is used to rotate turbines to generate .... energy.

20. When we expose our bodies to the Sun, we feel ....

21. In the .... weathering, the chemical structure of rocks doesn't change.

22. Formation of limestone caves is an example of .... weathering.

23. Greenhouses convert the radiant energy of the sun rays into .... energy.

24. Solar cells that convert radiant energy coming from the sun rays into .... energy .

25. Solar cells that are found in some calculators produce .... energy that is used to recharge their ....

26. Wind blows due to the difference in .... between the cold air and the hot air .

27. When wind turbines rotate .... energy is converted into .... energy.

28. By increasing the rotation of wind turbine blades, the wind turbine generates more .... energy.

✹(4) Put (√) or (X) :

1. The Sun is the main source of energy on Earth. (   )
2. Living organisms don't need the Sun to survive. (   )
3. The Sun provides the Earth with light and heat. (   )
4. Wind is a renewable energy resource. (   )
5. The flow of water can't be controlled to generate electricity in dams. (   )
6. Waterfalls are considered as nonrenewable energy resources. (   )
7. Electrical energy can be generated from both waterfalls and wind movement. (   )
8. The flow of water can be controlled to generate electricity in dams. (   )
9. Running water in rivers has kinetic energy. (   )
10. The energy produced by wind turbines is known as hydroelectric energy. (   )
11. Evaporated water from rivers can return back to rivers through the water cycle. (   )
12. Electricity generated by wind turbines is transmitted through wind. (   )
13. The heat trapped on Earth causes global warming. (   )
14. Smog doesn't cause any damage in the human respiratory system. (   )
15. When water freezes, its volume increases. (   )
16. Wind can be considered one of the factors that cause weathering. (   )
17. Limestone caves are formed by the action of mechanical weathering . (   )
18. When iron in rocks rusts, the rock becomes more stronger. (   )
19. The movement of sediments from one place to another is known as weathering. (   )
20. Oxygen in air reacts with iron of some rocks forming green-colored rust. (   )
21. In wind turbines, the kinetic energy is converted into chemical energy . (   )
22. The surface of the Earth changes from time to time. (   )
23. Both wind movement and water flow have kinetic energy. (   )
24. The hydroelectric energy is produced by using wind turbines. (   )
25. Acid rain helps trees to survive. (   )
26. To reduce pollution and conserve nonrenewable resources of energy, we must decrease their use. (   )

27. When burning fossil fuels increases, the temperature on Earth decreases.	( )
28. As a result of global warming, the temperature on the Earth increases .	( )
29. The amount of oil on the Earth is limited.	( )
30. Wind turbines generate electricity by using the energy of water flow.	( )
31. Both modern wind turbines and old windmills are used to generate electricity.	( )

✹(5) Correct the underline

1	The amount of **renewable resources** of energy are limited on Earth.	(…………………………)
2	The amount of **biofuels** cannot be replaced as quickly as it is used.	(…………………………)
3	Wood is considered a **nonrenewable** resource of energy.	(…………………………)
4	Wood is **a fossil fuel** that is used in warming houses.	(…………………………)
5	Gases released from fossil fuels on burning **decrease** the temperature on Earth.	(…………………………)
6	**Renewable** energy resources are natural materials that are consumed at a faster rate than they can be renewed.	(…………………………)
7	Solar panels use **sound** energy to generate electricity	(…………………………)
8	Water turbines generate electricity by using the energy of **wind movement**	(…………………………)
9	The **high** cost of producing energy in windmills is one of its advantages	(…………………………)
10	**Potential** energy of the wind is converted into electrical energy by wind turbines	(…………………………)
11	**Water** turbines rotate when their blades rotate as wind blows.	(…………………………)
12	When air blows into the wind turbine strongly, the blades spin **slower**	(…………………………)
13	The **thermal** energy generated by water turbines in dams is known as hydroelectricity.	(…………………………)
14	Dams are built on rivers in order to generate **solar** energy.	(…………………………)
15	The electrical energy is generated by **wind** turbines in dams.	(…………………………)

✹(6) Give reason for:

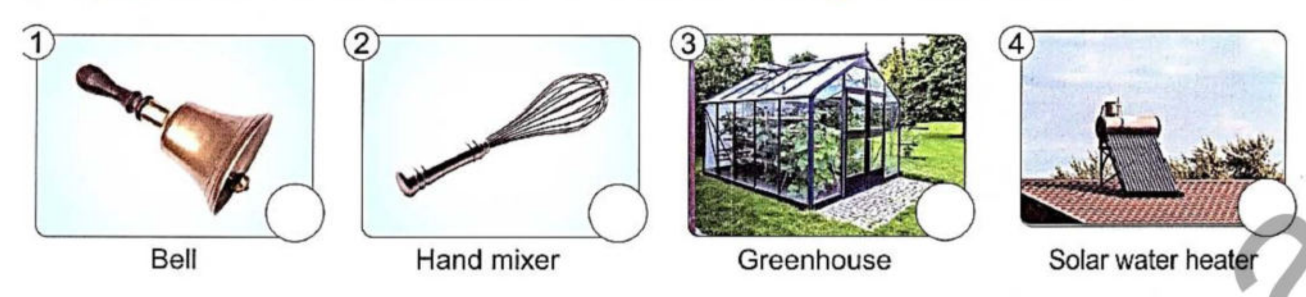
1. Increase the burning of fossil fuel causes acid rain.
....
2. Acid rain has a bad effect on buildings in cities.
....
3. Humans used windmills and watermills from hundreds of years ago.
....
4. Some electrical devices have solar panels which are composed of many solar cells.
....
5. Kinetic energy of wind affects the speed of wind turbine blades rotation.
....
6. Hydroelectric dams are built on rivers.
....
7. Water turbines are placed in waterfalls areas.
....
8. Some dams contain water turbines.
....
9. Formation of canyons is considered as an example of slow changes.
....
10. Iron in rocks may rust.
....

✹(7) What happen if:

1. If pesticides mix with water of canals and rivers.
....
2. If factories decrease their use of chemicals.
....
3. If acid rain falls on buildings for a long period of time.
....
4. A red-colored rust is formed on some rocks
....
5. If people decrease burning fossil fuels.
....
6. To the Earth's temperature if we use renewable resources of energy instead of fossil fuels.
....
7. Wind doesn't blow in an area that contains many modern wind turbines.
....
8. Sunlight falls on solar panels.
....
9. The solar cells in a calculator are exposed to sunlight.
....
10. The kinetic energy of a wind that is applied on the wind turbine increases.
....
11. Water turbines are placed in a dam.
....

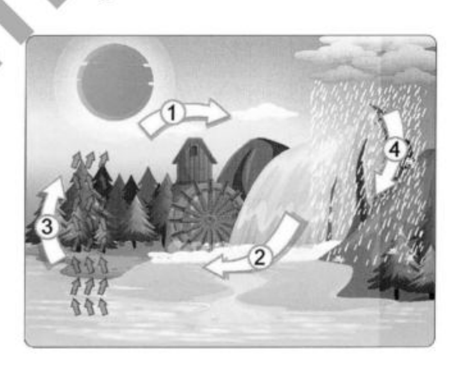
✸(8) TRY TO ANSWER:

1. Put (✓) in front of the pictures in which solar energy can be used :



2. Look at the following figure that represents the water cycle, then complete the sentences below:

1. The arrow number (..........) represents the evaporation of river's water.
2. The arrow number (..........) represents the condensation of water vapor to form clouds.
3. The arrow number (..........) represents the falling of rain that make water return back to the river.
4. The arrow number (..........) represents the water movement in waterfall that makes the watermill rotate.



3. Put (M) in front of the example of mechanical weathering and (C) in front of the example of chemical weathering :

1. Breaking down of rocks by the effect of sand which is carried by wind. (..........)
2. Rusting of iron in rocks due to the reaction between iron and oxygen. (..........)
3. Breaking down of rocks by the effect of acids produced by Lichens. (..........)
4. Breaking down of rocks by the effect of freezing of water and melting of ice inside their cracks. (..........)
5. Breaking down of rocks by the effect of growth of plant roots inside the cracks of rocks. (..........)
6. Breaking down of rocks by the effect of small gravel and sand which are carried by flowing water. (..........)

4. **(slow - erosion - fast - rocks - water)**

1. The shape of coastal rocks is affected by the forces of .... and wind.
2. The origin of sand is the breaking down of some types of ....
3. The process of transporting small rocks from one place to another by the help of water or wind is known as ....
4. formation of a canyon is an example of .... changes.

5. **(acids - oxygen - mechanical - chemical)**

1. Types of weathering can be classified into mechanical weathering and .... weathering.
2. Freezing of water inside cracks of rocks may cause a type of weathering known as .... weathering.
3. Chemical reaction between iron and .... causes its rusting.
4. Lichens produce .... that may cause breaking down of rocks.

Model Answer

(1) Write the scientific term:

1. Global warming
2. Respiratory system
3. Acid rains
4. Fossil fuel
5. Water mill
6. Wind mill
7. Wind turbine
8. Greenhouse
9. Solar panel
10. Wind
11. Wind turbine
12. Electric energy
13. Water turbine
14. Hydroelectric energy
15. Hydroelectric dam
16. Water turbine
17. Evaporation process
18. Condensation process
19. Electric energy
20. The sun
21. Wind turbine
22. Solar water heater
23. Water turbine
24. Evaporation
25. Wind
26. Canyons
27. Coastal rocks
28. Weathering
29. Erosion
30. Deposition
31. Plant roots
32. Chemical weathering
33. Limestone caves
34. Freezing process
35. Weathering

(2) **Choose the right answer:**

1. D
2. B
3. C
4. A
5. B
6. A
7. B
8. B
9. C
10. C
11. D
12. C
13. D
14. C
15. A
16. D
17. B
18. A
19. D
20. A
21. C
22. C
23. D
24. B
25. D
26. A
27. D
28. A
29. A
30. B
31. D
32. A
33. C
34. A
35. B
36. A
37. A
38. D
39. A
40. D

(3) **Complete the following:**

1. Hydroelectric energy
2. Wind , water & solar energy
3. Weathering
4. Mechanical chemical
5. Mechanical
6. Chemical
7. Air , soil and water
8. Erosion
9. Chemical
10. Friction
11. Carbon dioxide – water
12. carbon dioxide – air
13. carbon dioxide – global warming
14. temperature – climate
15. fossil
16. renewable
17. windmills – watermills
18. kinetic
19. kinetic – electric
20. warm
21. mechanical
22. chemical
23. thermal
24. electric
25. electrical – batteries
26. temperature
27. kinetic – electrical
28. electrical

(4) **Put (√) or (X)**

1. (√)
2. (X)
3. (√)
4. (√)
5. (X)
6. (X)
7. (√)
8. (√)
9. (√)
10. (X)
11. (√)
12. (X)
13. (√)
14. (X)
15. (√)
16. (√)
17. (X)
18. (X)
19. (X)
20. (X)
21. (X)
22. (√)
23. (√)
24. (X)
25. (X)
26. (√)
27. (X)
28. (√)
29. (√)
30. (X)
31. (X)

(5) **Correct the underline**

1. Nonrenewable
2. Fossil fuel
3. Renewable
4. Biofuel
5. Increase
6. Nonrenewable
7. Solar
8. Water movement
9. Low
10. Kinetic
11. Wind
12. Faster
13. Electric
14. Electric
15. Water

✹(6) Give reason for:

1. Because burning fossil fuel produces carbon dioxide gas which combines with water in air forming acid rain.
2. Because acid rain causes dissolving of some rocks .
3. Because they helped them to crush grain to make flour.
4. To absorb the solar energy coming from the Sun and convert it into electrical energy.
5. Because by increasing kinetic energy of the wind, the blades rotate faster and wind turbine generates more electricity.
6. To control the water flow and increase the potential energy of water to generate electricity.
7. Because water turbines convert kinetic energy of flowing water into electrical energy.
8. Because kinetic energy of moving water in dams is used to rotate water turbines to generate hydroelectric energy.
9. Because they are formed due to the slow changes that happened to their rocks over many years.
10. Due to the reaction between iron and oxygen of air.

✹(7) What happen if:

1. It causes the pollution of water and soil.
2. The pollution of air, water and soil will decrease.
3. It causes dissolving of the rocks used for building.
4. These rocks become weak and can be break down easily.
5. The amount of carbon dioxide gas in air will decrease.
6. The Earth's temperature will not increase.
7. The blades of wind turbines don't move and also don't generate electricity.
8. The solar energy of the Sun is converted into electrical energy.
9. The solar cells absorb solar energy and convert it into electrical energy
10. Its blades rotate faster and generate more electricity.
11. Potential energy of water behind dams is converted into kinetic energy which causes water turbines rotate and generate electricity.

✹(8) TRY TO ANSWER:

1. 3,4	**3.** **1. M** **2. C** **3. C** **4. M** **5. M** **6. M**	**5.** **1. chemical** **2. mechanical** **3. oxygen** **4. acids**
2. **1. 3** **2. 1** **3. 4** **4. 2**	**4.** **1. water** **2. rocks** **3. erosion** **4. slow**	

Revision on (Concept 3.2):- About fuel

1 Choose the correct answer:

1. …… is considered as the main resource of energy on the Earth's surface,

a Gasoline b. The Sun c Natural gas d. The moon

2. All the following are renewable resources of energy, except…………….

a. natural gas. b. water. c. the Sun. d. wind.

3. Ancient people use ………….. as a form of fuel, before discovering gasoline,

a. electricity b. water c. wind d. wood

4. Wood is considered a ………………

a. biofuel. b. fossil fuel. c. liquid fuel. d. gaseous fuel.

5. Coal is formed under the Earth's surface from the remains of……………

a. dead animals. b. dead plants.

c. dead humans. d. dead insects.

6. Extreme heat and pressure under the Earth's surface has an important role in forming……………………..

a. glass. b. wind. c. fossil fuel. d. biofuel.

7. All the following are forms of fossil fuel, except……………

a. water. b. coal. c natural gas. d. oil..

8. Hydroelectric energy is generated from ……………………….

a. waterfalls only. b. waterfalls and dams,

c. biofuel only. d. biofuel and fossil fuel



9. The non-renewable resources of energy, take……………..to be formed.

a. a short period of time b. a very long period of time

c. few minutes d. few hours

10. …………………Is produced from the decomposition of plants or trees.

a. Petroleum b. Natural gas

c. coal d. Benzene

11. Ethanol is produced from …………………..

a. grass b. corn c. coal d. a & b

11. Fossil fuel is extracted from ………………………….

a. mountains b. forest!

c. rivers d. underground earth

12. ………….is the oldest fuel that used in all the world.

1 a. Coal b. Wood

c. Petroleum d. Natural gas.

13. ………………… is an example of biofuel

a. Petroleum b. Coal c. corn b. Natural gas

14. ……………………moves the turbines in electric power stations,

a. Air b. Steam c. Water d. No correct answer

15. Petroleum oil is considered as a……………….source of energy.

a. permanent b. renewable

c. non-renewable d. no correct answer

16. Water is considered as a……………………..source of energy.

a. permanent b. renewable

c. non-renewable d. no correct answer



2 Give reason for:-

1. Water and wind are considered as renewable resources of energy.

……………………………………………………………………………………………………

2. Coal and gasoline are considered as non-renewable resources of energy.

……………………………………………………………………………………………………

3. Using wood of trees as a fuel has negative effects on the environment.

……………………………………………………………………………………………………

3 What happens when..?

1. The amount of gasoline in a car decreases.

……………………………………………………………………………………………………
……………………………………………………………………………………………………

2. The remains of dead living organisms were buried under the Earth's surface over millions of years.

……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

4 Complete the following sentences :

1. We can use some forms of fuel such as…………..and……….. in warming houses

2. Water and…………….are considered from resources of energy, while coal and………………are from non-renewable resources of energy.

3. The natural resources that can be replaced shortly after being used are called…………resources of energy.



4. The natural resources that are consumed at a rate faster than they can be renewed are called ……………………….resources of energy.

5. Different forms of fuel can be classified into two main types which are ………..and …………………..

6. The main source of fuel is the …………..

7. In electric power station, we use fossil fuel such as oil and natural gas which are considered as ……………..resources of energy.

8. The hydroelectric energy is considered as…….resource of energy, and we can get it from……………and dams to generate electricity.

9. When fuel is burned in an electric power station, it produces……………. energy to heat water.

10. The electric generator changes ……………..energy into……………..energy.

11. During generating electricity in electric power stations, the hot water produces……………..which is used to turn turbines.

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5 Correct the underlined words:

1. Fossil fuel include oil, coal and **wood**.
2. After death of living organisms, their remains are buried under the Earth's surface and exposed to extreme pressure and **cool**.
3. Hydroelectric energy, is one of **non-renewable** energy resources.
4. **Moon** is the main source of energy on earth.



6 Write the scientific term:

1. It is the main source of most forms of energy on the Earth's surface.	(……………..)
2. The form of energy that is produced as a result of burning of wood and coal.	(……………..)
3. It is any substance which produces thermal energy on burning.	(……………..)
4. Natural resources of energy, that take a short period of time to be renewed.	(……………..)
5. Natural resources of energy, that take a very long period of time to be formed.	(……………..)
6. It is the main source of most forms of energy on the Earth's surface.	(……………..)
7. The form of energy that is produced as a result of burning of wood and coal.	(……………..)
8. It is any substance which produces thermal energy on burning.	(……………..)



Revision on (Concept 3.3):- Renewable energy resources

1 Choose the correct answer:

1. Coal is the source of energy in a ……………………….

a. gas oven b. fireplace

c. petroleum oven d. solar heater

2. …………….were used to grind grains.

a. Solar panels b. Windmills

c. Fireplaces d. Gas ovens

3. The wind movement has ………….energy which moves the windmill's blades.

a. kinetic b. solar

c. thermal d. potential

4. The solar energy is converted into………….energy in greenhouses.

a. electrical b. sound c. thermal d. potential

5. Greenhouses allow farmers to plant crops that only grow in ……………

a. polar climate. b. warm climate,

c. absence of sunlight. d. absence of water.

6. Using curved ……….sheets in cooking food is one of the benefits of using the solar energy.

a. paper b. plastic

c. mirror d. wooden



7. All the following are renewable energy resources <u>except</u> ………..

a waterfalls. b. coal.

c. the Sun. d. wind.

8. Kinetic energy created by ……………movement is used to rotate the blades of windmills.

a. the moon b. stars

c water d. wind

9. When the windmill blades rotate, this causes wind turbines to rotate and generating ……………energy

a. electrical b. solar

c. chemical d. potential

10. The electrical energy is transmitted from windmills to houses through ………

a. water. b. wind.

c. coal. d. wires.

11. The electrical energy that is transmitted to houses can operate all the following devices <u>except</u> ____

a. washing machine. b. manual mixer.

c. electric fan. d. electric heater.

12. Water of rivers stores great ……….at the top of slopes.

a. kinetic energy

b .potential energy

c. electric energy

d. light energy

13. When the water of rivers falls from a high slope……………

a. potential energy is converted into kinetic energy

b. kinetic energy is converted into potential energy

c. potential energy is converted into electric energy

d. kinetic energy is converted into electric energy

14. Potential energy is converted gradually into kinetic energy when the ……………

a. dam stops the water

b. dam allows water to pass

c. water falls from a high slope

d. b &c

15. Water flows through turbines in dams to generate ……….energy.

a. electrical b potential

c. solar d. light

16. In water turbines, the …………… energy of water is changed into electrical energy.

a chemical b. kinetic c thermal d. light

2 Give reason for:-

1 The number of windmill blades affect its efficiency.

………………………………………………………………………………………..

2 Kinetic energy affects the speed of windmill rotation.

……………………………………………………………………………………………

3 The direction of wind blow affects the speed of windmill rotation.

……………………………………………………………………………………………………



3 Put (√) or (x)

1. You can create a thermal energy, when you burn some pieces of wood.	( )
2. There is a stored chemical energy inside the food we eat.	( )
3. The input energy in a hair dryer is the chemical energy.	( )
4. We can convert the solar energy into different forms of energy.	( )
5. Coal can be used to produce electrical energy.	( )
6. Coal, gasoline and wood are considered as renewable resources of energy	( )
7. The non-renewable resources of energy include coal, gasoline and water.	( )
8. Energy can be changed from one form to another.	( )
9. You feel cold when you approach your hand to an electric bulb.	( )
10. Electric lamps convert electric energy to light energy.	( )
11. Modern windmills are use to crush the grains	( )
12. During the flowing of rivers water downhill, the chemical potential energy of water is converted into kinetic energy.	



4 Write the scientific term:

1. A turbine in which the kinetic energy of moving water is used to generate hydroelectric energy. (…………………)

2. A process in which water changes into water vapor. (………… ….)

3. The evaporation and condensation of river water, then returning back to rivers through rain falling. (……… ……….)

4. It changes the kinetic energy to electric energy. (………… ……..)

5. A mill that uses the power of flowing air to generate electricity. (……………)

6. An energy that is generated from windmills and is transmitted through wires to houses and factories

7. A Type of electric energy generated by water turbines in dams

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5 Correct the underline word:

1. Water turbines generate electricity by using the energy of **wind** movement.

2. The **high** cost of producing energy in windmill is one of its advantages.

3. The difference in temperature between the hot and cold air causes air to **stop.**

4. During the flowing of rivers water downhill, the **chemical potential energy** of water is converted into kinetic energy

6 What happen if ………..?

1. Water turbines are placed in a dam.

2. Potential energy of water increased in a dam containing water turbines.

……………………………………………………………………………………………..



Model answer

Revision on (Concept 3.2):- About fuel

1 Choose the correct answer:

1. b	2. a	3. d	4. a	5. b	6. c	7. a
8. b	9. b	10. c	11.d	12. b	13. c	14. b
15. c	16. b					

2 Give reason for:-

1. Because it can be replaced soon after it is used.
2. Because used at a rate faster than they can be replaced.
3. Cutting down of trees, and removal of forest so it will affect the environment.

3 What happens when..?

1. The car will stop.
2. It will form fossil fuel.

4 Complete the following sentences:

1. coal- wood	2. wind- natural gas	3. renewable	4. non-renewable	5. fossil fuel- bio fuel
6. the sun	7. non-renewable	8.renewable- waterfalls	9. steam	10. kinetic- electric
11. steam				

5 Correct the underlined words:

1. natural gas 2. Heat 3. Renewable 4. The sun

6 Write the scientific term:

1. the sun	2. thermal energy	3. fuel	4. Renewable	5. Non-renewable
6. sun	7. thermal	8. Fuel		

Revision on (Concept 3.3):- Renewable energy resources

1 Choose the correct answer:

1. b	2.b	3. a	4.c	5. b	6.c	7. b
8. d	9. a	10. d	11.b	12. b	13. a	14. d
15.a	16. b					

2 Give reason for:-

1. Because, hen the number of blades decreases, they rotate faster, so the efficiency of wind turbine increases.

2. Because, when the kinetic energy of **wind increases,** the blades rotate faster, so the efficiency of wind turbine increases.

3. Because. When the wind blows from the side of wind turbine, the blades rotate faster, so the efficiency of wind turbine increases

3 Put (√) or (x)

1. √	2. √	3. x	4. √
5. √	6. x	7. x	8. √
9. x	10. √	11. √	12. x

4 Write the scientific term:

1. watermill	2. evaporation	3. water cycle
4. turbines(dynamo)	5. windmill	6. electric energy
7. hydroelectric energy		

5 1. water 2. Low 3. move 3.grvtitiona potential

6 What happen if ……….?

1. it will change the kinetic energy from falling water to electrical energy.

2. The potential energy will be changed into kinetic then onto electric energy in turbines.

Give the reason.

1- **We must turn off lights that we do not need.**

To conserve electricity

2- **Generators are important in electric power stations.**

Because generators convert kinetic energy into electrical energy

3- **Smog of cars is very dangerous to human health.**

Because smog cause irritation of human's eyes and lungs

4- **Farmers must decrease the use of pesticides.**

Because pesticides cause soil and water pollution

5- **Increases the burning of fossil fuel causes acid rain**

Because burning of fossil fuel produces carbon dioxide gas which combines with water in air forming acid rain

6- **Global warming occurs due to the increase of burning coal and oil**

Because burning coal and oil produces carbon dioxide gas that forms a layer in atmosphere that traps heat on Earth causing rise in Earth's temperature

7- **Acid rain has a bad effect on buildings in cities**

Because it dissolves the building rocks

8- **Fossil fuels cannot be replaced as quickly as they are used.**

Because they are formed in millions of years





9- **To keep the air clean, we must replace fossil fuels with renewable resources of energy.**

Because when burning fossil fuels, they produce smog that pollutes the air.

10- **Humans used windmills and watermills from hundreds of years ago.**

Because they were used to crush grains to make flour

11- **Sometimes the sun is not visible in the sky, but you can feel its warmth.**

Because the atmosphere, land and water absorb the energy of the sun causing an increase in the temperature.

12- **Kinetic energy of wind affects the speed of wind turbine blades rotation.**

Because when kinetic energy of wind increases, blades rotate faster, and wind turbine generates more electricity

13- **Hydroelectric dams are built on rivers.**

To control the water flow and increase the potential energy of the water to generate electricity.

14- **Water turbines are placed in waterfalls or dam's areas.**

Because the flow of falling water helps water turbines to rotate and generate electricity

15- **Some electrical devices have solar panels which are composed of many solar cells**

To absorb solar energy and convert it into electrical energy





16- **Sometimes the wind turbines are useless**

Because when the wind does not blow, they cannot work or generate electricity

What happens if?

1- **A generator that is connected to a damaged turbine in an electric power station.**

Turbine cannot produce kinetic energy so the generator will not turn and don't generate electricity.

2- **The movement of turbine if the water in an electric power station is not heated.**

Water will not produce steam so the turbine will not move or produce kinetic energy.

3- **Pesticides mix with water of canals and rivers.**

It will pollute soil and water.

4- **Factories decrease their use of chemicals.**

Air, water and soil pollution will decrease.

5- **The amount of fossil fuels if people don't conserve their usage.**

Fossil fuel will run out.

6- **Acid rain fall on buildings for a long period of time**

It causes dissolving of the rocks used for building

7- **People decrease burning of fossil fuel**

the amount of carbon dioxide gas in air will decrease





8- **The Earth's temperature if we use renewable resources of energy instead of fossil fuels.**

The Earth temperature will not increase.

9- **Wind does not blow in an area that contains many modern wind turbines.**

The blades of wind turbines will not move and will not generate electricity.

10- **Sunlight falls on solar panels.**

The solar energy is converted to electrical energy.

11- **The kinetic energy of a wind that is applied on the wind turbine increases.**

The blades rotate faster and generate more electricity.

12- **Water turbines are placed in a dam.**

Water turbines rotate and generates electricity.

13- **Potential energy of water increases behind a dam that has water turbines.**

It is converted into more kinetic energy that rotates the water turbines and generates electricity.

14- **Water of seas and rivers evaporates then condensates in the atmospheric air.**

Clouds are formed and rain falls.

15- **Sunlight falls on a green house**

The green house converts the radiant energy from the sun ti thermal energy





16- There is difference in temperature of air around Earth

It causes the movement of air and wind blowing